

The conditions and challenges for conducting online teaching in elementary schools

Research Report

Metamorphosis Foundation

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Executive resume

With the WHO declaring the Covid-19 pandemic and the sequential quarantines in many countries, education suffered the hardest blow.

As a consequence of the crisis, in the past period the quality of education received by students in elementary education has inevitably declined, but not for all students equally. The existing economic inequalities, which were an obstacle even before the crisis, have become even more acute and have further contributed to the difference in the quality of education. Unfortunately, in RNM there still exist schools where the internet access is inadequate, and the ICT infrastructure is in poor condition or does not exist at all. This situation, as well as the very poor economic situation of the families, has led to a certain number of students¹ not being able to attend online classes at all. The teaching staff and school management were forced to start activities almost "overnight" for which they (in most cases) were never trained. Focusing on the technical aspects (use of technologies, digital literacy, etc.), led to the neglecting of the pedagogical aspects of teaching, which resulted in dissatisfaction with the process among all parties involved, especially the end-users - students.

The purpose of this research was to determine the conditions and challenges of online teaching in elementary schools in RNM in the period March - June 2020.

The collecting of data for the research took place in two phases: an anonymous online survey, conducted in the period from 26 June to 15 July 2020, intended for the teaching staff, management and professional services in elementary schools in RNM, and three separate focus groups, in 26-27 August, with the teaching staff, the management and the parents of elementary school students. We truly hope that the analysis of the collected data and the recommendations given in this document will contribute to improving the situation with online teaching, to the satisfaction of all stakeholders.

¹ According to the Concept for Distance Learning (MES, 2020: 19), the latest data provided during the COVID-19 crisis show that around 30,000 students (from vulnerable categories) do not have an IT device at home.

Key findings and conclusions from the research:

The main problem that arises before the beginning of the new school year 2020/21, viewed from a purely technological point of view, is the situation with the technical aids, primarily laptops and computers, necessary for the conduction of the mandatory online teaching.

According to the data from our research, almost half of the participants (44.5%, n = 337) reported that they use their own, personal laptop at school for job purposes. The teaching staff, in most cases (84.9%), uses private e-mail addresses for official communication. This is problematic from many aspects, especially from the aspect of protection of personal data of students, who are minors during elementary education

Also, almost one-third of the teaching staff (31.6%) stated that they only have internet at school on their mobile phone. Unfortunately, there are locations where schools do not offer any internet access, which calls into question the whole process of conducting online teaching for these students.

The results also show that many teachers in the online teaching process have faced challenges of an administrative nature, such as the lack of clear guidelines for keeping an electronic portfolio (82.4%) and, in particular, clear guidelines for the grading process (85%).

In many families with more children of school age, the problem was the "sharing" of technical aids (laptop, computer), i.e. the situation usually required only one of the students to be able to attend online classes. Also, it often happened that the parents themselves attended the classes and/or to conduct it at home with their children, i.e. parents acquired the role of "substitute teachers". Due to the inability of these families to procure new aids for online teaching, they were often in a position to choose who would attend (and maintain) online teaching within families.

Although most of the respondents agree that various trainings, focused on specific software and tools used in the online teaching process, would be of great benefit to them, still, almost all participants in the research (**97.1%**) emphasized that successful online teaching requires **continuous technical support** for the teaching staff.

Also, almost all participants in the research (**88.9%**) agree that to successfully implement effective online teaching, the usual methods in the teaching process need to be changed. In other words, the current practise should be subject to thorough reforms.

Regarding this, in the past, there have been major disagreements over the use of different platforms and software solutions. Almost half (48.6%, n = 368) of the participants in the research agree that a unified and standardized online platform or so-called "Online classroom" for all schools is needed. However, a significant number (30%, n = 227) believe that a better variant to "one platform for all" would be if schools had some freedom in choosing the platforms and software through which online teaching will be conducted for their students.

The division of opinions regarding teaching in the languages of the smaller ethnic communities is particularly interesting. Namely, 45% of the respondents agree with the position "There is a satisfactory representation of materials (textbooks, handouts, workbooks, etc.) in all languages in which teaching is conducted", although a well-known problem that has been going on for years is the lack of basic materials (textbooks) for a large number of subjects in the schools where the teaching is performed in another language, other than Macedonian.

On the other hand, **70%** (n = 62) of the teachers who teach in another language (other than Macedonian) or combined (Macedonian plus another language) (n = 88), do not agree with this position, i.e. most of these teachers confirm the lack of educational resources in the languages of the smaller ethnic communities in RNM.

Regarding textbooks and other educational resources, almost all participants (**93.9%**) agree with the view that successful online teaching requires complete or partial adaptation of the textbooks.

Key recommendations

- Involvement of all stakeholders (parents, teachers, school management) in the adoption of new policies related to online teaching;
- Creating/using modern, optimized, and unified online teaching platform, whose relevance and usability - in addition to key software elements - will be assessed through the prism of marginalized communities and people with weaker ICT skills;
- Providing electronic devices and internet for students, especially those from socially vulnerable categories and large families, to attend online classes;

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- Investing in upgrading the ICT infrastructure in elementary schools, especially in schools in rural areas;
 - Taking into account the specific needs of students with special needs, students from rural areas and students from economically weaker areas;
 - Investing in upgrading teachers' skills in their digital competencies;
 - Continuous technical support to the schools and the teaching staff for successful implementation of online teaching;
 - Taking into account the pedagogical aspect of online teaching - appropriate additional training of the teaching staff where necessary;
 - Taking into account the availability of educational materials for all students, especially for students who attend classes in the languages of the smaller ethnic communities;
 - Promoting the use of open educational resources (OER), as an alternative to classical textbooks and teaching aids. OER are especially important in environments where traditional educational resources are not always fully available (for example, in the teaching held in the languages of smaller ethnic communities, in rural areas, etc.). To fully utilize the potential offered by OER in our country, certain changes in the regulations are needed, which will enable their uninterrupted use in the school environment;
 - Recognition of the most committed persons involved by promoting positive examples of effective online teaching;
 - A request to the competent institutions, schools and the teaching staff for the very careful use of the devices where the personal data of all involved in the teaching process are stored, especially the minors (students), due to the possible consequences and privacy violations that could occur with a potential breach of protection.

Introduction

Context

With the WHO declaring the Covid-19 pandemic and the sequential quarantines in many countries, education suffered the hardest blow. Namely, in most countries in the world that implement various degrees of "lockdowns", the education sector was forced abruptly and without warning or preparation to transfer all its activities online. However, the shift to online education implies a serious factor analysis for individual age groups (especially in elementary education),

as well as for the specifics of the subject being taught, in the context of its transfer in a digital environment.

Unfortunately, the nature of the situation made such ad-hoc analyzes virtually impossible, and the short time that the authorities gave to the educational institutions to prepare for this transfer influenced all this. The emerging situation has been dealt with more successfully by those countries that have developed, at least in part, an online learning curriculum or contingency plan (as part of a larger pandemic response).

A very important consequence that must be noted in this context is the fact that the transfer of the entire educational process to compulsory online learning and the technical challenges that followed, not only highlighted but also exacerbated the economic inequalities among students.

One of the most affected groups in this context were the students who do not attend classes in the language of the majority (in our country - Macedonian language), i.e. students who attend classes in the languages of the smaller ethnic communities, as well as most students in rural areas. Problems regarding the availability of basic educational resources (textbooks) for these students in our country existed even before the pandemic. Namely, many times so far, many stakeholders, including the Metamorphosis Foundation, have emphasized the lack of these basic teaching aids. Even before the crisis caused by the coronavirus, the Metamorphosis Foundation advocated and called for the use of open educational resources (OER) in the regular teaching process. The pandemic has only further widened the gap in the quality of education these students receive, compared to their classmates in more urban and economically advanced environments.

Timely changes in regulation and investment in the diversification of basic educational aids and digital content (in the form of open educational resources) would not only provide better education to most of the affected students in this period but would mitigate the "impact" of this crisis on all involved in the educational process. In other words, we have had many chances to prepare the process of education, but we failed.

The availability of technology aids (laptops), which may not be a problem for some families, has become a huge burden for others. Many families belonging to vulnerable socio-economic groups, especially those families where several children attend school at the same time, and in some families where one or both parents are teachers, in the past, have already highlighted these problems of technical or economic nature.

Also, as many of the activities required the involvement of students (and sometimes parents) in real-time, the speed and stability of the Internet connection have re-emerged as a factor that depends on the quality of education these students receive, especially those from rural areas.

Unfortunately, there have been cases when students, mainly due to the very poor economic situation, were not ready to attend online classes at all.

Experiences from the region

Some countries in the region have decided to open educational institutions, including elementary schools, with some differences in the degree of measures. Some of the solutions are practically applied **without** any measures, without keeping distance and/or without wearing masks.

Austria has decided to take such a step, where the school year will probably start normally, without mandatory wearing of masks for students or other measures to prevent the spread of the virus.

In Hungary, "the new school year [...] will start in the usual way, and schools will open on 1 September," the Hungarian Ministry of Human Resources said. According to Hungarian authorities, the Covid-19 epidemic is no excuse for digital education to replace classrooms.

On the other hand, Montenegro has postponed the start of the school year to 1 October 2020. The statement from the Government of Montenegro emphasized that the regular start of the school year on 1 September "brings a risk to the health of children, due to the uncertain development of the epidemiological situation, which (although under control) is still complex." Additionally, one of the parents of children under the age of 11 will be entitled to paid leave so that they can take care of the children.

The situation in the Republic of North Macedonia

In RNM, the models for the beginning of the new school year that was mentioned during July and August were opposed by the public. Independent Trade Union of Education, Science and Culture (SONK) issued a statement saying that the priority of authorities should be the health of students as well as employees, hoping that the proposed models will reflect these values.

The representatives of the Union of High School Students of the Republic of North Macedonia also expressed their opinion, saying that "the health, safety and well-being of the school community must be at the center of the policies for returning to school." Also, the Union of High School Students organized a protest against the decision of the Ministry of Education and Science for full transfer to online teaching. They advocate a combined model of teaching, where conditions are met.

An informal group of parents also sent a request to the authorities. They believe that the option of online education for all students should be provided in the new school year, so that, as they say, we stop the spread of Covid-19. The Deputy Ombudsman Vaska Bajramova Mustafa, on the other hand, sent an opinion to the Ministry of Education and Science, stating that "it is imperative for the authorities to fulfill all preconditions for digitalization of teaching, but to also make it available to all students." Radio MOF informs.

At the press conference held on 18 August 2020, the Minister of Health Venko Filipče said that the recommendation of the Commission for Infectious Diseases is to start online teaching from September, with two exceptions, for first to third-grade students and for schools with a small number of students (usually the schools in rural areas).

However, at the time of writing of this report, no school has sent a request to the Ministry of Education and Science to hold classes with physical presence, reports Factor. "In the model - *teaching with physical presence*, the teacher will be present in the classroom and will teach the subject directly to the students whose parents have decided that they should attend classes with physical presence. If the parents of some students in the class request that their children attend classes online, the class will be broadcast live, and if the possibilities do not allow live streaming, the class will be recorded, and then will be forwarded to other students through the applications used in the last school year or printed materials will be delivered to each student separately. Also, the teacher can choose an already recorded lesson on the appropriate subject uploaded on EDUINO ", state from the Ministry of Education and Science.

"However, at the request of parents, children from first to third grade will be able to attend classes online. After conversations and intensive communication with parents and professionals, we decided to allow the parent to have the right to choose the model because in some families there are parents who are chronically ill, at high health risk, or the children are cared for by older family members (grandparents) who may also have a chronic illness, which would put the family at greater risk," Filipče said.

One of the measures that continue to be implemented is the measure that covers the parents of children up to 10 years. After the start of the school year in September, as before, these parents will again be exempted from going to work, as part of measures to prevent the spread of Covid-19. This decision of the Government refers to one parent of a child up to 10 years, more precisely to those parents whose children will go to school, reports sdk.mk.

In an interview with Focus, Azis Položani, former Minister of Education and Science (2002-2006), says that our teaching staff is not ready to deal with the challenge of online teaching:

"I think there are no winners in such situations. There are only damaged, and the weakest educational systems will suffer the most. Our education system has been showing a lot of weaknesses lately, so we will all suffer some damage. Normally, the greatest damage will be to those who are in a more unenviable situation in terms of infrastructure and technological readiness of educational institutions, and these are primarily rural schools and students from families with low socio-economic standards. Part of the teaching staff is not ready to deal with the new technological-pedagogical challenges in normal circumstances, let alone in such complex situations," added the former minister.

In a statement for Fakulteti.mk, the Ministry of Education and Science states: "Distance learning will continue to be realized through the use of electronic means of two-way communication, as well as EDUINO, a platform that is now upgraded and enriched with more content than before. However, the teachers' council decides which platform will be used and this decision will be mandatory for all teachers in the school."

The schools themselves will be in charge of the technical realization of the classes. Teachers will conduct the teaching process via official laptops, and if there is a need, the school will invest. The Ministry of Education and Science does not plan a capital investment in terms of the technical equipment of the classrooms.

"Additionally, we emphasize that there are considerations for the preparation of a completely new platform, different from EDUINO", concludes the Ministry of Education and Science.

In this context, one of the activities that are expected to show results in the coming period is the unified national platform for online teaching. Professor Boro Jakimovski, Vice Dean for Science and Cooperation at Faculty of Computer Science and Engineering (FCSE), informed that FCSE, in cooperation with representatives of MASIT and MISA, is preparing a unified national platform for online teaching with two-way communication that can be used in all schools in RNM. According to him, the platform should be ready by 15 September and will be able to serve 200,000 - 300,000 students simultaneously.

"We plan everything to be ready by 15 September, with some activities to be completed earlier, but due to the complexity and volume of the system, delays are possible. Either way, there will be challenges! I believe that through the cooperation with the IT industry, the telecom operators and the competent institutions, appropriate solutions will be found ", says Jakimovski for Fakulteti.mk. According to the Vice Dean, mobile phones can be used as devices for participating in the teaching process when using this platform, and teaching staff will be able to use this platform in many ways, i.e. uploading materials, homework, videos, etc.

With all these proposed (and, to a large extent, adopted) ways to continue online teaching, we must not ignore the question - are students, parents and even the teaching staff ready for the same technological situation of March 2020? The results of our research indicate that there are drastic differences in the attitudes of the teaching staff regarding their readiness for the new school year.

Methodology

Quantitative research on the conditions and challenges for online teaching in elementary schools was conducted in the period from 26 June to 15 July 2020. For the needs of the research, and relying on our previous activities and experiences with the teaching staff, professional services and the management of the elementary schools, a questionnaire was prepared, which was then ported in an online format.

The questionnaire was created and implemented using the Google Forms platform, a free tool for all Google account users, owned by Google LLC. The platform offers raw data that can be downloaded in .csv format, which allowed for the preparation of additional analysis and visualizations.

The anonymous questionnaire was published and promoted on the webpages of the Metamorphosis Foundation, the Foundation Open Society - Macedonia, as well as on the social networks Facebook and Instagram. The questionnaire was completed by over 750 participants (N = 757).

In addition to the quantitative research, three focus groups were conducted in the period 25 - 28 August 2020. The focus groups were conducted online, using the ZOOM platform, each lasting about 60 minutes.

Focus groups, which represent a qualitative research method, served as an in-depth source of information on the conditions and challenges of online teaching in elementary schools. They were attended by 25 participants, divided into three separate groups - teaching staff, parents/guardians and elementary school management throughout RNM.

About the research

The research was aimed at determining the conditions and challenges related to online teaching in elementary schools in RNM in the period March - June 2020, i.e. from the start of online teaching due to the crisis caused by Covid-19. Additionally, by identifying the conditions and challenges, an opportunity was created to make appropriate recommendations, based on the data obtained from the research.

Through consultations with the teaching staff, school management and professional services and parents, we collected data (through an anonymous online survey and in-depth focus groups) which resulted in constructing recommendations, the implementation of which would be beneficial to all stakeholders, with the ultimate goal of providing better education for all students.

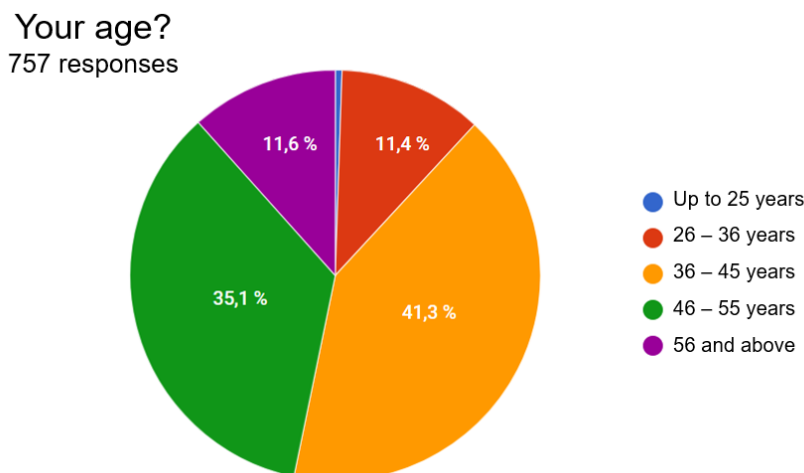
Participants in the research

Most of the participants in the research belong to the group "elementary school teacher" (89%, n = 675).

46 participants (6.1%) belong to the group "professional service in the school", while 27 (3.6%) are part of the school management.

The language of instruction is mostly Macedonian (84.3%). Only 7.4% or 56 teachers reported that they conduct combined teaching - Macedonian and another language.

The age of the participants in the research is shown in the following visualization. It is important to note that the two youngest categories of participants in the research (up to 35 years) participate with only 11.9%, i.e. 90 participants.



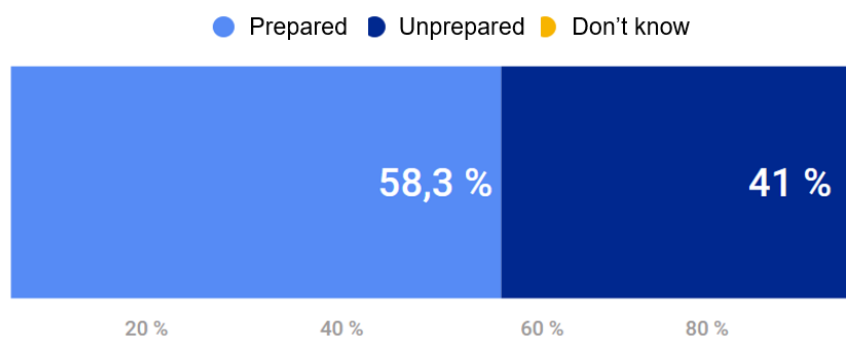
At the same time, the gender distribution of the participants is with the expected drastic differences: only 10.7% of them reported as male, while 87.5% are women. "I do not wish to specify" was chosen by 1.8% of the participants.

Almost all survey participants report that they regularly use the Internet (94.5% several times a day) and, also, 91.5% regularly use the Internet on a mobile phone. Over two thirds (67%) of the participants reported that they do not use the Internet on a tablet.

Digital competencies of the teaching staff

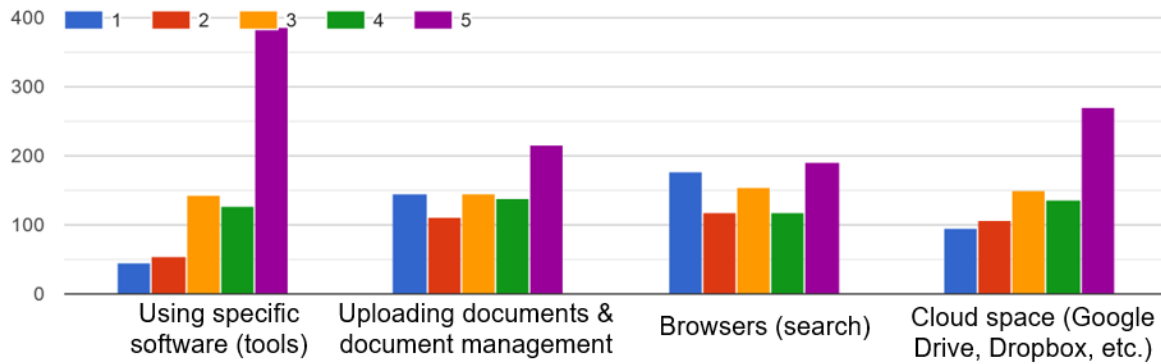
Self-assessment of the competencies of the teaching staff

The teaching staff (n = 675) is divided based on the perceived readiness to implement online teaching in the past period. Namely, 276 (41%) teachers think that they were not ready for the realization of online teaching at the moment when the schools were closed. On the other hand, 394 (58.3%) think they were ready for such a step. Distribution of answers can be seen in the following visualization.



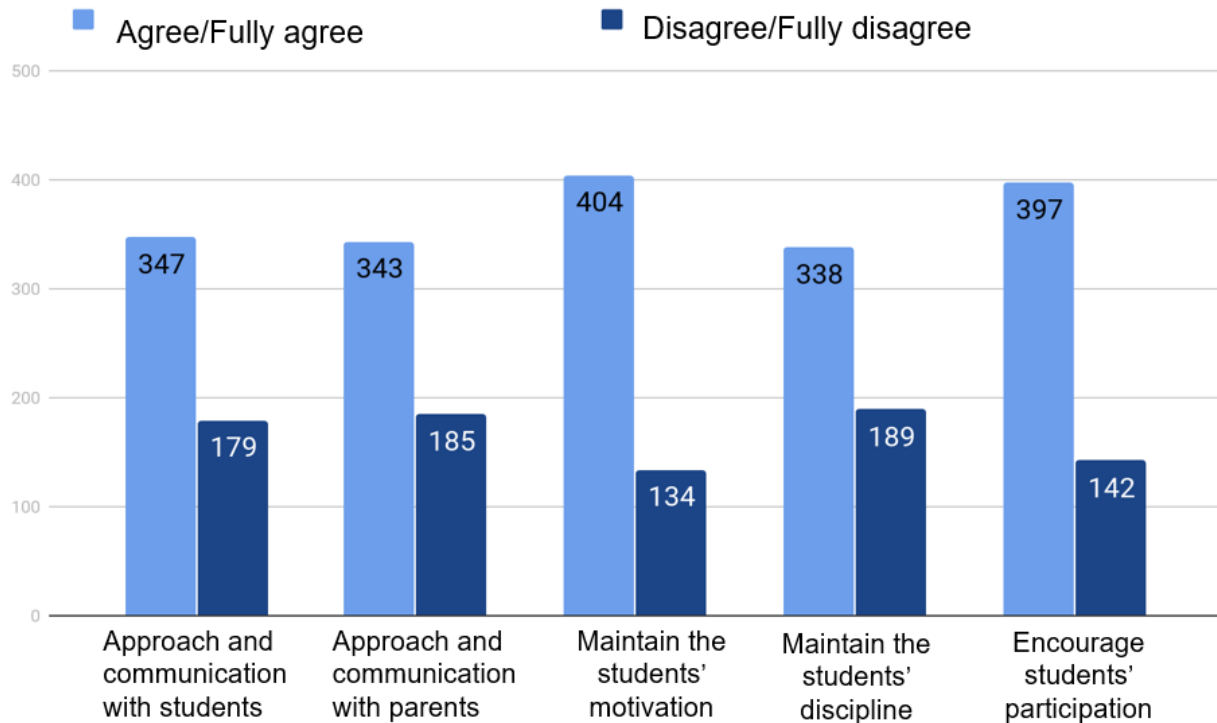
When asked about the need for additional training for better online teaching, focused on the technical aspect, 50% of the teaching staff completely agreed that training in the use of specific software (tools) would be very useful. The second category with which most of the teachers (34.8%) agreed is the trainings for using Cloud space (Google Drive, Dropbox, etc.).

I could benefit from trainings for online teaching, focused on the technical aspects: (1 – totally disagree, 5 – totally agree)



Regarding the pedagogical aspect of online teaching, most of the teaching staff estimated that they would benefit from trainings on this topic. A more detailed conclusion can be drawn from the distribution of grades on the visualization below. The pedagogical aspect was divided into several subcategories, as follows:

- Access and communication with students;
- Access and communication with parents;
- Maintaining student motivation;
- Maintaining discipline in students, and
- Encouraging student interactivity.

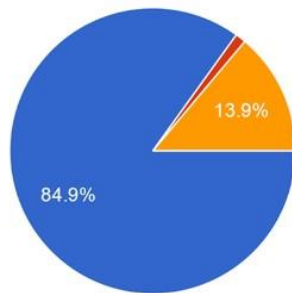


Most of the teaching staff responded positively to the need for training in all of the above pedagogical aspects.

To the question "Do you use a personal or private e-mail address?", 84.9% of the participants in the survey answered that they use only a personal, private e-mail address. Only a small proportion (13.9%) answered that they use both a private and an official email address provided by the school. According to these answers, another topic that arises for discussion is the security of students' data in the context of cyber security of private e-mail addresses of the teaching staff, as well as the security of the devices through which they access these e-mails.

Do you use a personal, private e-mail?

757 responses

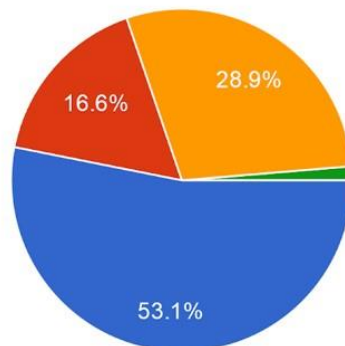


- Yes, only a private e-mail address – Gmail, Yahoo, Hotmail or other
- No, I use only an official e-mail address provided by the school
- I simultaneously use private and official e-mail address provided by the school
- I do not use personal nor private e-mail address

The frequency with which participants reported checking their email addresses is solid - over 50% have automatic notifications on their mobile phone, which is almost a constant notification of the incoming message, and over 40% check if they have new messages at least once a day or more often.

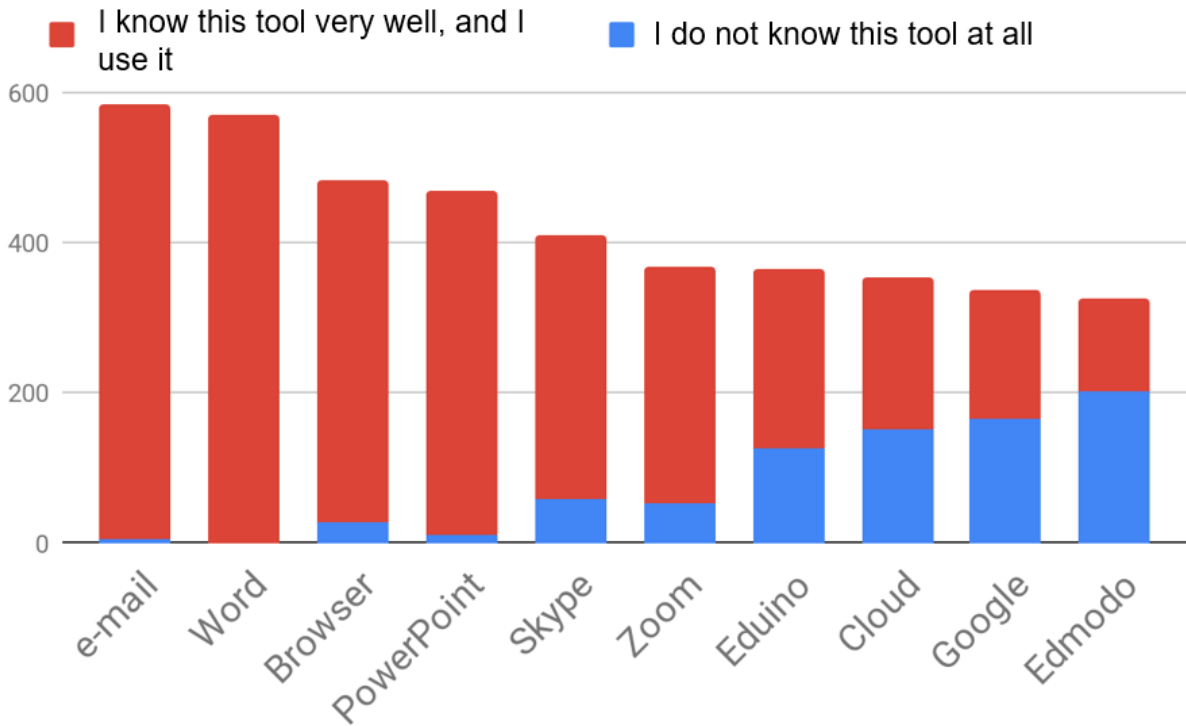
How often do you check your e-mail?

757 responses



- Very often (I receive automatic notification on my computer or mobile phone)
- Several times a day
- Once a day
- Never

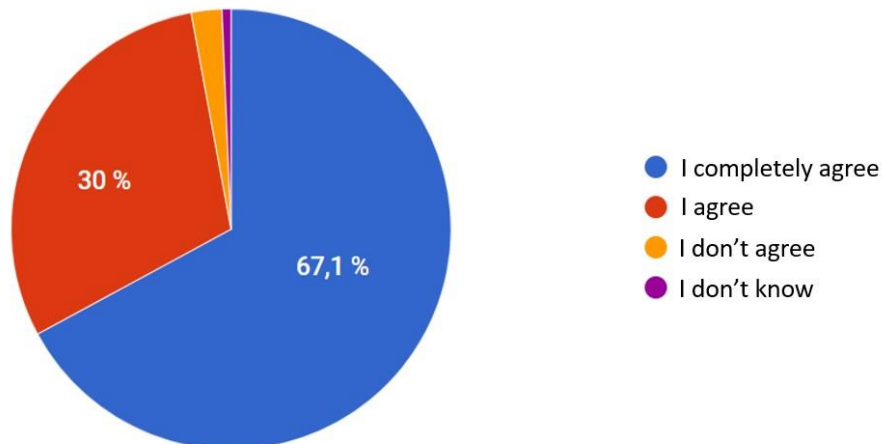
Self-assessment for specific tools and software also follows an expected trend: teaching staff feel most prepared to use familiar tools and software (Word, PowerPoint, e-mail, search engines), and is drastically less ready to use Google Classroom, Zoom, Cloud space, etc.



97.1% of the participants agree with the view that continuous technical support of the teaching staff is needed for successful implementation of effective online teaching.

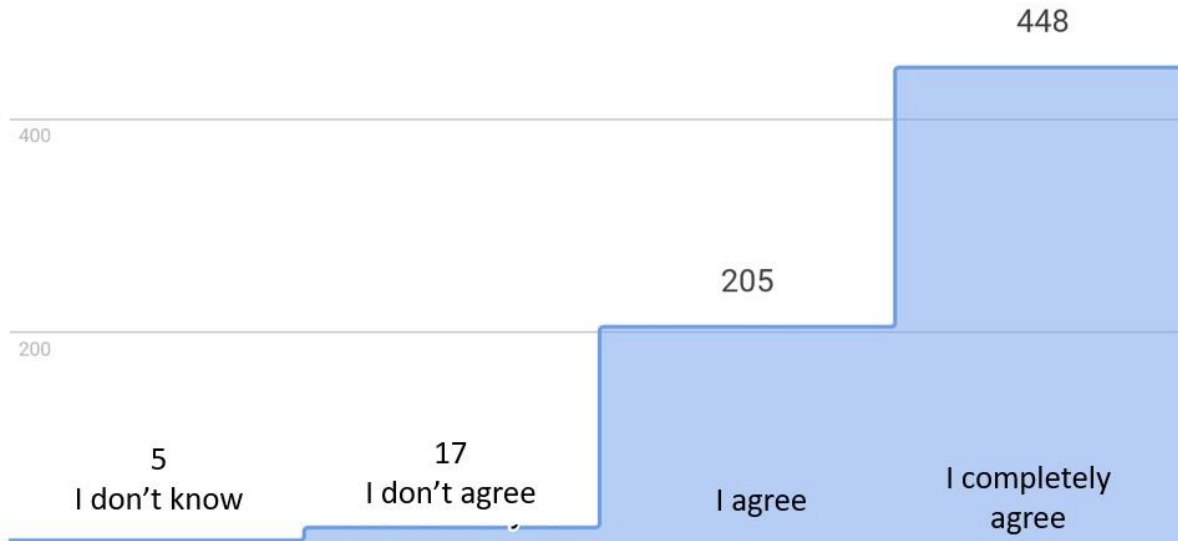
Continuous technical support of the teaching staff is needed for successful implementation of effective online teaching

757 responses



Additionally, out of the teaching staff (n = 675), only 17 teachers did not agree with the view that they need continuous technical support.

Continuous technical support of the teaching staff is needed for successful implementation of effective online teaching



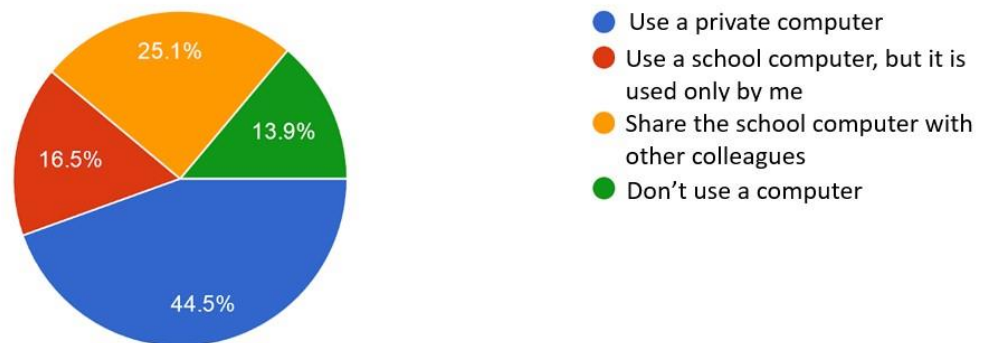
Most common challenges in conducting online teaching

The main problem that arises before the start of the new school year 2020/21, seen from a purely technological aspect, is the level of equipment with technical aids (above all, laptops and computers) to conduct the mandatory online teaching.

According to the data from our research, almost half of the participants (44.5%, $n = 337$) reported that they use their own or personal laptop at school, for official purposes.

At school I:

757 responses



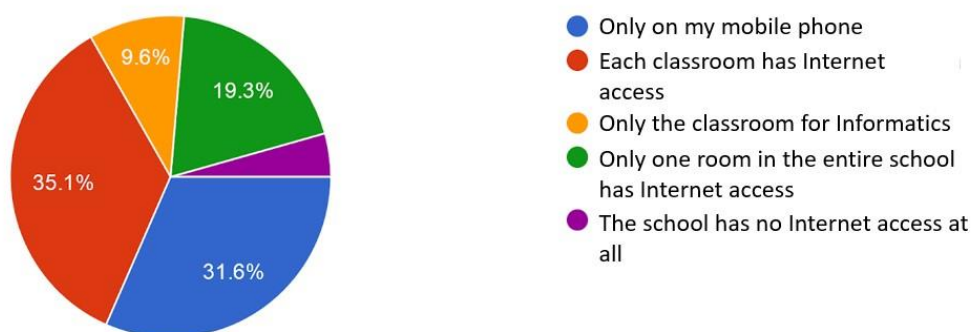
This is problematic in many respects, especially in terms of the protection of personal data of elementary school students, who are still minors. The physical security of the personal laptops of the teaching staff, as well as the cyber-security within the school, but also wherever those computers are transported (at home, outside the borders of RNM, etc.) is questioned. The fact that these personal computers are portable (laptops) and are also used for private needs of the owners, is a huge risk for all data about students, which often contain photos (biometric data), locations, place of residence, etc. The sensitivity and importance of this issue is not the subject of this report, but we appeal to the competent institutions and, in the meantime, to the schools themselves and the teaching staff, to act extremely carefully with the devices where the personal data of all involved in the teaching process are stored, especially those of minors or students. Potential damage and privacy violations, which can result from potential breaches of student data storage devices, can have enormous and potentially long-lasting consequences.

An additional factor that should be taken into account when deciding whether, how and when the school year begins online, must be the availability of the Internet and technical aids for both students and the teaching staff.

Almost one-third of the teaching staff included in our research stated that the Internet at school is only available on their mobile phone.

There is available Internet access at school:

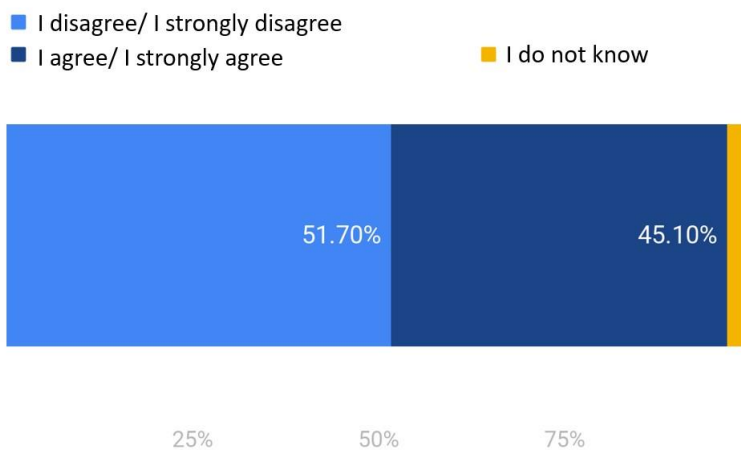
757 responses



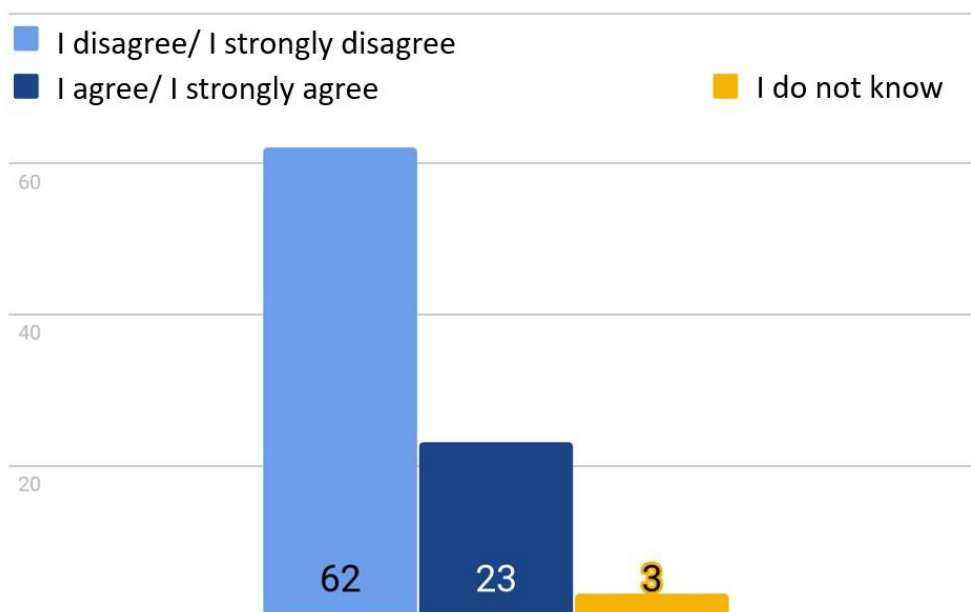
Unfortunately, there are locations where schools do not offer any internet access at all, which calls into question the whole process of conducting online classes for these students.

The opinions of the participants regarding the representation of materials in all languages of instruction are divided. Namely, 45% of the participants in the research agree with the position "There is a satisfactory representation of materials (textbooks, manuals, workbooks, etc.) in all languages of instruction", although a well-known problem that has been going on for years is the

lack of basic materials (textbooks) for most of the subjects, in the schools where the teaching is performed in another language, other than Macedonian.



Additionally, 70% (n = 62) of the teaching staff that teach in another language (not Macedonian) or combined (Macedonian and another language) (N = 88) do not agree with this position, i.e. most of these teachers acknowledge the lack of educational resources in the languages of the smaller ethnic communities in RNM.



93.9% of the participants agree with the position that complete or partial adaptation of the textbooks is necessary for successful online teaching.

Teaching aids, especially textbooks, are of great importance for successful teaching.
When it comes to online teaching, textbooks:

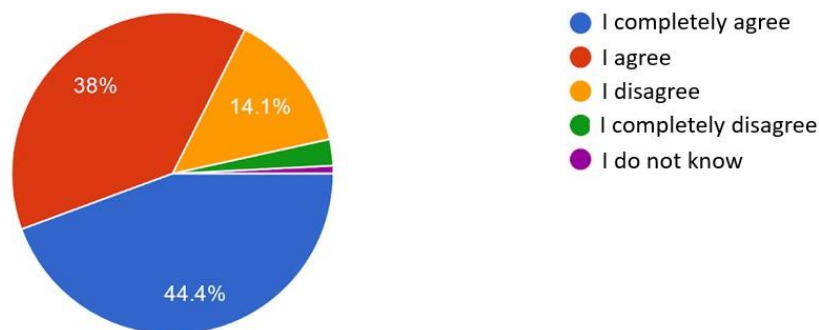
757 responses



Almost half of the participants (44.4%) completely agree with the position that online teaching also complicates the administrative part of the teaching process (reports, assessments, registrations, etc.). If we add the answers "I agree" here, we get 82.4% positive answers, i.e. agreement that this aspect should be given serious consideration in the context of online teaching.

Online teaching also complicates the administrative part of the teaching process (reports, assessments, registrations, etc.)

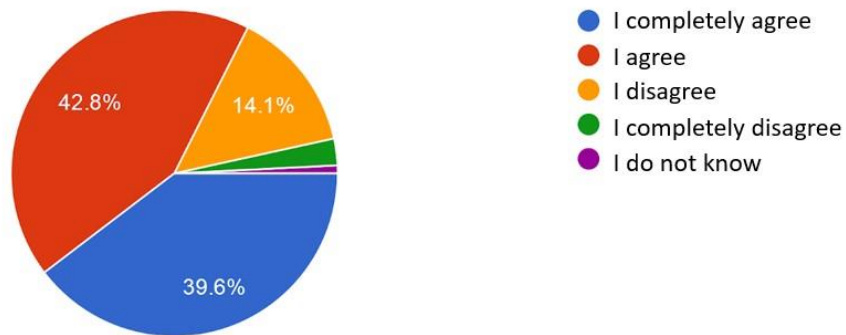
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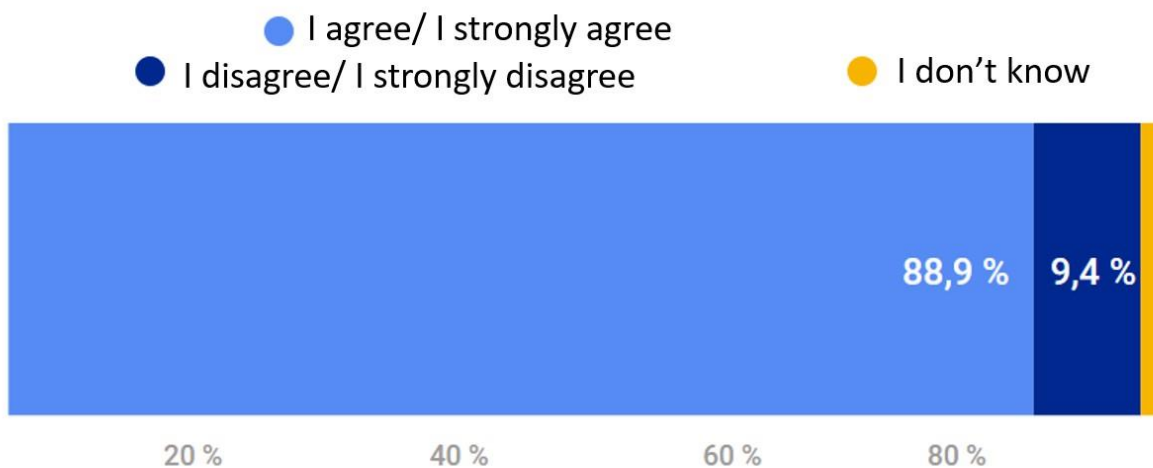
The situation is similar to the electronic portfolio. 82.4% of the participants think that online teaching makes the process of monitoring students' progress more difficult.

Online teaching makes the process of monitoring students' progress more difficult (The instructions for keeping an electronic portfolio of students were difficult to apply)

757 responses



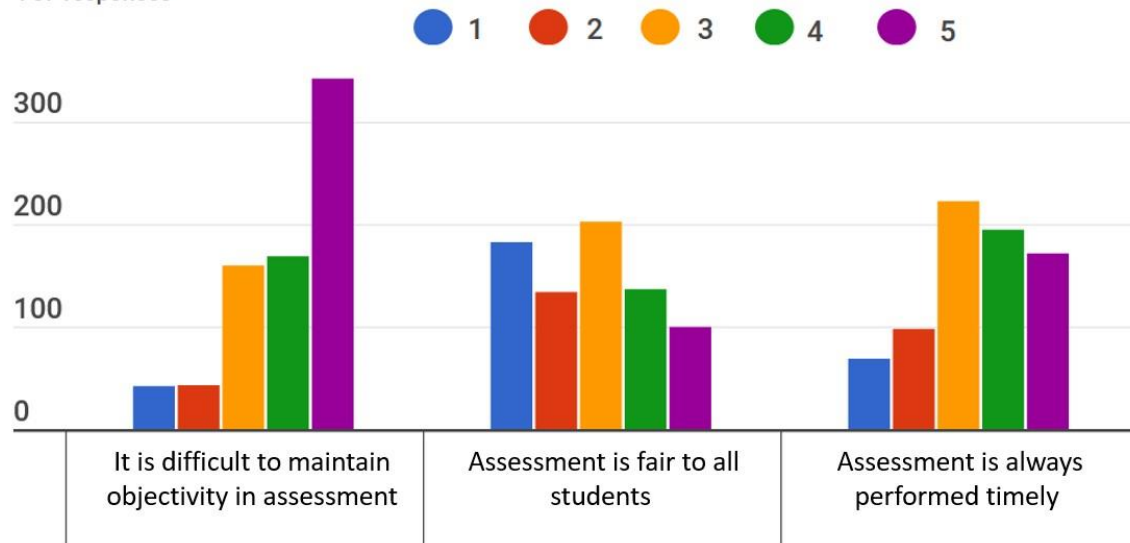
Almost all participants in the research agree with the view that for *successful* implementation of effective online teaching the usual methods and teaching process should be changed (88.9%). In other words, the current practice of the past period should be subject to thorough reforms.



In that line, and when it comes to the process of student assessment, 50% of the teaching staff fully agrees with the position that it is difficult to maintain objectivity in the assessment. If we add to this the answers marked with 4 (I agree), the percentage rises to 85%. Therefore, assessment is also a serious challenge.

Online teaching also makes student assessment more difficult (1 - I completely disagree, 5 – I completely agree)

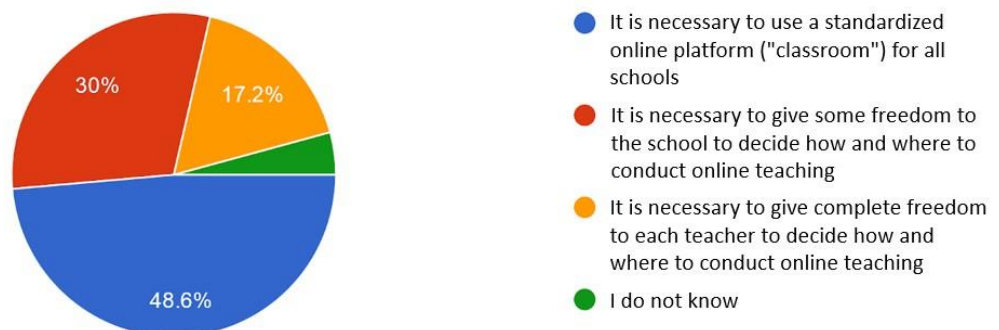
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When asked about the use of different platforms and software solutions in the past period, almost half (48.6%, n = 368) of the participants in the research agree that a single, unified and standardized online platform **is needed** or the so-called "Online classroom" for all schools.

An important factor for successful teaching is the classroom itself, i.e. the space in which the teaching process takes place. When we talk about online teaching and a "classroom":

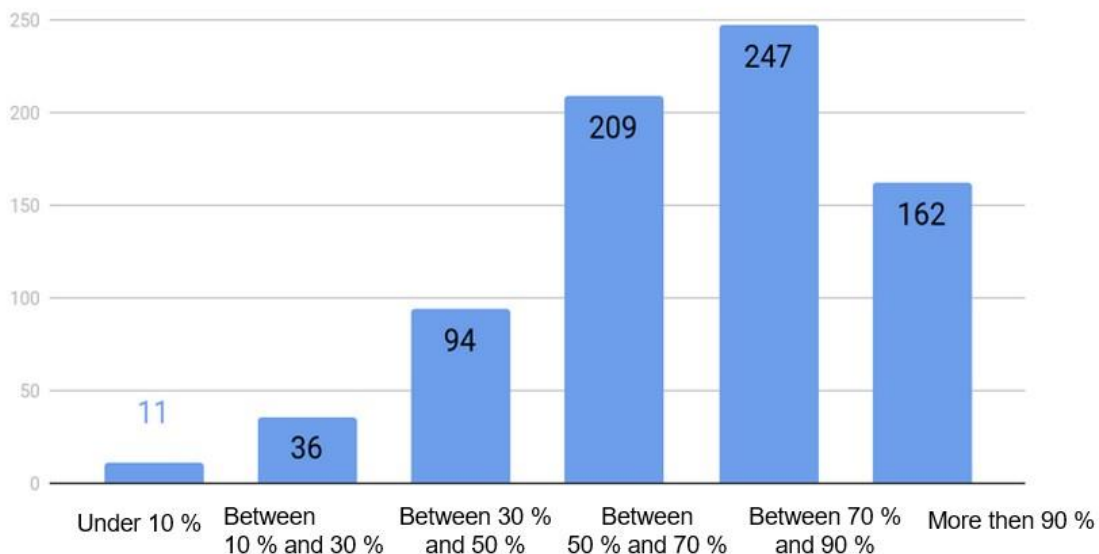
757 responses



However, a significant number (30%, n = 227) believe that a better variant of "one platform for all" would be if schools had some freedom in choosing platforms and software through which online teaching will be conducted for their students.

Finally, when asked how many students have attended online classes in the past, participants generally agree that at least half of the students have actively attended classes. This situation is far from ideal, especially if we take into account that these figures are the result of arbitrarily expressed views of the participants (N = 757), while our country does not have official, verifiable figures for this situation.

In your opinion, what was the percentage of students who actively participated in the online education in the past couple of months?



Conclusions from focus groups

As part of the research on the conditions and challenges for conducting online teaching, the Metamorphosis Foundation conducted three additional focus groups to gather as much detail as possible about research topics and to provide better and more relevant recommendations.

The focus groups were conducted with three target groups, namely: with the parents/guardians of children who attended online classes during the research period; with the management of the elementary public schools, and with the teaching staff that in the same period conducted online teaching. The selection of the candidates was done according to the principle "first-come, first-served", i.e. the candidates applied by e-mail, after the announcement of the public call. The

focus groups were conducted in the period 25-28 August 2020 and lasted an average of one hour. Below follow the main conclusions that emerged from the discussions.

Focus group with the **teaching staff**

In a review of the general impression of the online teaching process between March and June 2020, the respondents (elementary school teachers) stated that they generally consider it a challenge that has been completed, given that they were caught up in the situation very quickly and they managed to adapt to the newly created conditions and to complete the school year.

The most commonly used online tools for communication and teaching were: Zoom, Facebook Messenger, closed Facebook groups with parents, Skype, Viber, Google Classroom, Google Meet, Edmodo, Eduino, TV classroom, ClassDojo, Web Room, etc. Classes were mostly conducted through online conference calls, in the form of video lectures, presentations and assignments that were sent to students, and they sent feedback as a photo of the homework done.

Several challenges they faced in this process were pointed out, from the aspect of technical readiness, as well as from the aspect of teaching. One of the main problems is the lack of appropriate devices and conditions for all children. The reasons for this are various: lack of economic means to provide such a device; multiple family members need the device at the same time; lack of stable electricity and internet connection in some rural regions; lack of a separate room for attending classes, etc. Lack of adequate technical equipment was a problem for some teachers, who were forced to manage on their own and use their devices. Additionally, the lack of technical knowledge and ability to use such devices for online teaching (both by teachers and students) was a challenge. This was especially problematic for younger students, who are still unable to attend classes online and need the presence of an adult, as well as for older teachers.

"We managed in a way, because no one had previously given us training and prepared us for something like this and because all this came unexpectedly. I functioned on three platforms: I contacted students in messenger groups, I held Zoom classes, and I received feedback via email" - says an elementary school teacher from Bitola.

From the aspect of the teaching process, the lack of direct contact caused difficulties in the teaching of the contents, due to the lack of direct feedback from the students in real-time and the impossibility for an individual approach to each child. This led to additional questions, which the parents asked throughout the day. Also, during the homework and testing, the teachers did not have insight into the process of solving problems and completing tasks, so it happened that they were sent materials that they suspected were not made by the child but had no way to check or

prove it. Some of the students in whose families there was a person infected with Covid-19 also had difficulties in attending classes, so they were emotionally affected by that situation.

On the other hand, as one of the main benefits of this whole process, they state the increase of technological competencies among them and the students, which will certainly contribute to the modernization of the educational process in the future. In addition, some of the used platforms provide storage of sent materials (lessons and homework), which over time has become a kind of enriched online resource and portfolio of what has been done.

As for the new school year, although most of the problems have not been resolved, the teaching staff generally feels more prepared compared to March 2020, because they already have the experience, know the students and know what they can expect during the school year. Consequently, they expect a great challenge in working with new students, who will now enroll in first grade. Teachers who attended trainings for online teaching say that they were very helpful, but also point out the need for a unified platform for online teaching that will be used by all and for which they will receive appropriate continuous training.

"We as teachers, as well as the students, are very adaptable. The only thing that bothers me, as a teacher, is the uncertainty in which the Ministry and the Bureau put us. We needed to organize much better, we needed to know when we start, how we start, what rules will be followed, trainings ... I believe that if they had allowed us to organize at the school level, we would have organized much better ... "- says an Informatics teacher from a rural Skopje school.

The need for a shortened curriculum that will be given by the competent institutions and will be the same for all is paramount, instead of the current solution for each teacher to shorten the curriculum at their own discretion.

"BDE should create a shortened curricula and deliver it to us, and not let ourselves to shorten the curricula, i.e. annual programs. We gave a proposition of a program, we adopted a program, thinking that everything will run normally (180 working days), that the teaching will be realized as planned ... We worked all summer to shorten the annual programs. But who are we to do such a thing!? Maybe I do not have the competence, right? ... The program, in my opinion, even though I have been in education for 35 years, should have been provided in August and we should have been asked to check it... "- says a teacher from a rural Skopje school.

Focus group with **parents/guardians**

For parents who have school-age children, the past period has also been extremely challenging, as many of them have found themselves in the position of being their child's teacher, and have

not felt sufficiently prepared and competent for the task. The way the teaching was conducted mainly depended on the engagement and approach of the teachers and varied from complete non-involvement and no contact with the students, by occasionally pointing out tasks from the textbooks to be solved, to active involvement through conference calls and group work.

"It was a difficult period for all parents, because everyone, including me, had to put themselves in the position of teachers - first to explain what is not clear to the children or to seek help from other parents or a teacher who he will explain it over the phone, or join Skype, etc. "- says a parent of an 8th grade student, from an elementary school in Skopje.

However, in most cases, the teaching took place indirectly: by sending teaching content by the teachers, which the parents read and worked on with their children, and then sending solved homework that the teachers checked and corrected. This process caused many challenges for parents: younger students were completely dependent on them for their use of online tools and required constant engagement; the parents of the students in the higher grades were not competent to explain to their children the content of all subjects; those who have more than one child of school age could not provide adequate conditions for all children in the family, and additionally, as a problem in families with many children is emphasized the inability to provide a smart device for each child at the same time.

Regarding the subject teaching, the parents noticed that there is no class schedule and no unified platform for online teaching, as well as insufficient coordination between the subject teachers, and insufficient availability of some of them. Students used different online tools for each subject, had classes at different times of the day, and were engaged in school activities throughout the entire day.

"Teaching did not take place according to the regular schedule. If there was a schedule, the children would have finished from 8 to 12, and in the afternoon they would have time to write homework, read an assigned book, etc. But, they were engaged all day," said the parent of a 6th grade student from Delčevo.

"No school made a new schedule, and no one adhered to the old one. Thus, everything was done on the conscience of the teacher," said the parent of an 8th grade student in an elementary school in Kumanovo.

The shortcomings of the above approach are a cause for concern regarding the quality of education that children receive, given the shortened curriculum, the unavailability of some of the teachers, as well as the subjectivity of parents in assessing the knowledge of their children. In addition, most students did not have PE classes.

Although most parents agree on the shortcomings of online teaching, some of them consider it a benefit that in this way children develop their digital skills, as well as being forced to be active and further explore certain topics and use technology and smart devices as a means of work. Additionally, for some parents, such involvement of children in teaching is a good opportunity to see the abilities of their children, their talents and the areas to which they need to pay more attention.

Some parents said that while working with their children to convey or explain the content of the lessons, they often used additional literature, YouTube, Google as a browser, and asked for help from their friends. Also, some of them were pointed to a website with audiobooks, which contained textbooks in audio format.

What the parents have noticed in the past months is that the children react to the engagement and the requests from the teachers, i.e. that the more active teachers had more authority and better results. For the next school year, they emphasized the following needs: to make a schedule of classes that will be consistently followed and which will distinguish the time spent "at school" and the free time; to provide teaching devices for each child; more active participation of teachers, which would mean that online teaching takes place mainly through direct communication between teachers and students, with less mediation from parents and others.

"There were teachers who sent materials in the right way, i.e. lectures were accompanied by videos, presentations, explanations, and homework tasks. I did not face such a problem, but in other schools, some parents complained because the children were only given instructions on what to write, which page to read and which task to answer." says a parent of a 4th grade student from Sveti Nikole.

Focus group with **management**

With the beginning of the state of emergency and the decision of the competent authorities to stop the regular teaching process, the schools faced a new and unexpected challenge for which they were not sufficiently prepared and did not receive adequate support from the competent authorities in terms of technical equipment, education of the teaching staff and the students and the clear directions and rules for the teaching process. What was given as a guide was to find a way to communicate with all students and each teacher to decide for themselves on how to organize the teaching.

Achieving these goals has encountered numerous obstacles. Initially, it was not possible to contact all students, due to lack of appropriate technical equipment, internet connection and

network coverage, which was the case with many students from the Roma population, students from families with low socioeconomic status, students living in rural areas, large families and single-parent families. Although this problem was partially solved by providing donations and indirect communication, many times the communication remained one-way - from teachers to students, without receiving any feedback.

"Many students come from families with more than one child or single-parent families and are not able to attend a lecture at the same time because they have only one computer or telephone. There is no good internet access in the mountain villages, and those parents who go to work face a problem when the child should be online and participate in distance learning "- says the principal of a primary school in Kumanovo.

The schools themselves and the teaching staff faced a lack of technical equipment. Schools do not have enough devices for each teacher, nor do they have fast internet to enable live online streaming of multiple lessons simultaneously. Thus, teachers were forced to find a solution on their own, often using their own resources. The "freedom" that teachers had in terms of how they would organize their teaching, combined with the different levels of digital skills, resulted in huge variations in the way teaching was performed. Particularly challenging with online classes, but also with attending online trainings for such classes, had those teachers who have poor knowledge of information technology and no experience with the use of smart devices. Hence, the common denominator is that many of them did not conduct real online classes, but only gave homework tasks.

"There must be clear and concise rules on how we should work, i.e. on how teachers should work. If we are told to do as we please, each of us will choose the easiest way to get the job done. For some teachers, a kind of online lesson was the instruction "copy the lesson from the book, take a picture, and sent it to me" - said the deputy principal of a primary school in Bitola.

Respondents who are part of the management of elementary schools, as a positive aspect of this experience consider the following events: technological progress, the development of platforms such as *Eduino* and *TV-classroom*, the numerous trainings for using online tools that were conducted during this period, equipping some schools with more modern technology, introducing innovations in teaching that are more interesting for students and facilitating the organization of online work meetings, which do not require physical presence.

"It is a benefit that, whether we like it or not, we have been further educated and learned something more ... It is not about the technical equipment of the parents or the students, but it is about the teachers who do not have conditions for teaching at home ... We must all try and we

can not expect the entire burden to be carried by institutions," said the principal of a regional school in Skopje.

Online tools and platforms were also used for communication and coordination between school staff and for monitoring their work. For this purpose, in addition to communication applications, questionnaires for teachers, job reports and online schedules were used, and management representatives were members of Facebook groups that were intended to exchange information between teachers, parents and students.

The experience with the organization of online teaching so far has contributed to the schools and their teams to be better prepared for the next school year, but also to gain insight into the resources and conditions that are a key to its success. One of the main preconditions is the provision of appropriate equipment for all schools, teachers and students, as well as the timely training for its use intended for all stakeholders (current and future teachers, students, and if necessary for parents) and also constant additional training. In addition, it is necessary to find a permanent solution by the competent authorities, which will provide clear guidelines and rules for conducting online teaching, prescribed shortened curriculum and a unified platform that will be an appropriate and practically applicable software solution for teaching online.

Recommendations

Involving all stakeholders (parents, teachers and school management) in adopting new policies regarding online teaching

Assessing the field situation and making fact-based decisions again proved to be a challenge for the institutions that were tasked with responding to the new situation. The situation with the Covid-19 crisis was unpredictable, but that does not justify the fact that the MES, BDE and other decision-makers did not use the available resources and expertise to find meaningful solutions that would mitigate the "impact" on education. The exclusion of teaching staff, NGO experts and parents from the decision-making process, by not involving them in the consultative phase, led to hasty and ad-hoc decisions, which rarely resulted in the desired effects, leaving many stakeholders deeply dissatisfied with the results. Although there were attempts to involve stakeholders in the consultative processes, the prevailing opinion was that they were implemented only as a proforma, i.e. that the institutions were implementing them only to justify the existence of such activities. In this context, the fact that these consultations often had too short a response time and were not promoted to the public did not help either. Such an approach made the possible participation of the already disinterested potential participants even more difficult.

Additionally, there remains a need to adapt the approach according to the target group. It is necessary to consult the vulnerable and marginalized groups in an appropriate way, i.e. in a way that the target group usually communicates because only then will realistic assessments of the situation be made. The first step in improving this situation is to consult with community representatives, who will help identify ways in which they can be properly consulted, including the development of possible technological solutions for collecting feedback from the public.

Creating/using a modern, optimized and unified platform for online teaching, which in addition to the key software elements will be evaluated through the prism of marginalized communities and people with weaker ICT skills, in terms of its usability and appropriateness

Although the idea of "one platform for all" is not an ideal solution for all teachers, such a software solution would significantly facilitate the lives of a large number of teachers, the work of institutions and even families.

The specifics that such a large technological solution should include are not the subject of this research, but the complexity of the functionalities, related to the already existing expectations from the use of established solutions (such as Google Classroom, Edmodo, etc.) will dictate its acceptance by side of the teaching staff and students, who are already "accustomed" to certain platforms. It is important to note that the effective functioning of the platform, as an **associate** of teachers, rather than as another online record-keeping form, will largely depend on both the administrative requirements associated with its use and the simplicity of the design (UI), user experience (UX) and the dose of customization for each user (for example, language selection on the platform).

Almost every software solution inevitably incorporates a certain amount of prejudice and privileges, which run through the process from the beginning to the final product. Therefore, it is of great importance to review the finished product (platform) and its functionalities, in terms of its usability and inclusiveness. These evaluations could be organized after each interactive use of the platform, with the addition of new functionalities and major changes.

If people with disabilities, people with low socio-economic standards and people with poor ICT skills see the platform as an obstacle or as an "administrative task" imposed by the institutions, the platform will not be accepted, and this will affect the quality of the education these students receive.

Taking into account the specific needs of students with special needs, students from rural areas and students from economically weaker areas

Offering a solution that will suit everyone ("one size fit all") without taking into account the specifics of many users (and stakeholders) in the educational process, has led to no satisfied parties in the educational process in the period March - June 2020 year. In elementary education, especially in lower grades where children often face for the first time a series of socio-psychological implications, the adaptability of the solutions offered by the competent institutions is very important. Namely, children with special needs, children from rural areas and children from economically weaker families have very different needs, but also expectations from what the educational process looks like. Imposing a solution that may work well in an urban Skopje municipality, without the possibility to adapt or guarantee that it is applicable in other municipalities and schools, will almost inevitably lead to dissatisfaction and disinterest among students. Families face challenges in terms of the motivation of these students to attend such online classes, and some students come from families for whom such classes are completely inappropriate.

Investing in upgrading the skills of the teaching staff and their digital competencies

Teachers themselves, as well as parents, students and others, regularly reported problems with the digital skills of their teaching staff. Our research has confirmed this, especially the focus groups which have clearly emphasized that there are drastic differences in the digital skills of the teaching staff. For successful online teaching for all students, it is necessary to establish a minimum level of digital skills of the teaching staff, but also to continuously improve the already acquired skills. Forced to use tools, software, platforms, etc. part of the teaching staff completely rejected the online educational process, i.e. their participation in the period March-June was reduced to sending homework to parents, followed by a rudimentary assessment.

Investing in upgrading the IT infrastructure in elementary schools, especially in schools in rural areas

The economic inequalities in the environments in which the students from the elementary schools in RNM live are also reflected in the classroom. The inability to conduct simultaneous online teaching using school internet access and available hardware (monitors, computers, etc.) has led to the quality of education of these students to depend only on the personal efforts of some teaching staff. Unfortunately, not every teacher was able to "cover" the shortcomings of the school by using a private computer and adequate internet access from their home. Although in the past there were positive examples of private companies appearing as donors of ICT equipment in certain schools, the investment in upgrading the ICT infrastructure of the schools should not be left to this way of equipping the classrooms. An obstacle in this process is the lack of a guide and teaching staff and management with appropriate ICT knowledge needed in the procurement of the necessary hardware and software.

The establishment of a minimum ICT standard for primary schools, in wider consultation with the IT community, will enable the removal of this obstacle.

Continuous technical support to schools and teachers for successful online teaching

In addition to the appropriate equipment, which will guarantee technical opportunities for conducting online teaching, continuous user support of the teaching staff is needed during its implementation. The frustrations faced by some of the teachers and the management in the attempts to conduct online teaching, led some of them to completely give up further online activities, pointing out the weak ICT infrastructure and their digital competencies as demotivating factors. By providing technical, i.e. "Customer" support in the process, the teaching staff will be able to fully dedicate themselves to the realization of teaching and the pedagogical aspects of online teaching.

Taking into account the pedagogical aspect of online teaching - appropriate further training of the teaching staff, where necessary

The lack of clear guidelines, plans and guides for online teaching in the past period has led to dissatisfaction, frustration and has had a demotivating effect on all those involved in the process. Because at the very beginning of the mandatory online teaching, the whole focus was on technological solutions, there was no discussion on the pedagogical aspects. Attempts to simulate "standard" learning process using only webcam and video conferencing software, very quickly pointed out the shortcomings of the lack of an appropriate online teaching methodology, which does not omit the pedagogical aspects. Although there were attempts to animate the students, a good part of them remained unmotivated, and some did not participate in the teaching process at all, i.e. they experienced the whole period as an extended vacation. The training of the teaching staff for the pedagogical aspects of the online teaching, but also a public campaign intended for the students and the parents for its advantages and specifics will lead to a better understanding of the process, and thus a better understanding of the expectations and obligations of all involved parties.

Taking into account the availability of educational materials for all students, especially students attending classes in the languages of smaller ethnic communities

The well-known situation of all those who have been involved in education for a long time and are well acquainted with the educational policies in RNM is the lack of basic school aids (such as textbooks). This problem is particularly pronounced when it comes to the language resources of the smaller ethnic communities (Turkish, Serbian, Vlach, etc.). Although in recent years there have been some efforts to change this situation, it is still far from satisfactory. By transferring all teaching activities online, the teaching staff in these languages is faced with two choices: to

"manage" with new materials in a short time, to maintain some continuity in the teaching process, or to revert to the use of Macedonian language resources (at least those that are available). Technological solutions for online teaching must include and take into account the specifics of the language and culture of these students. On the other hand, competent institutions must continue to continuously enrich the educational resources available to these communities.

Promoting the use of open educational resources, as an alternative to classical textbooks and teaching aids

Open educational resources are any materials used in teaching that are open and free to use. The concept of open educational resources (OER) covers all educational resources, including curricula, course materials, textbooks, online videos, multimedia programs, podcasts, and any other material designed for use in teaching and learning that are available for free use by teachers and students, without the need to pay royalties or license fees.

The concept of OER is evolving and building on the idea of "open content" from the 1980s. OERs have been particularly evolving since the founding of Creative Commons in 2001, enabling a simple and fast way to license copyrighted works and share them by attributing them to the source. One of the first uses of the term OER was at the 2002 UNESCO conference. From the very beginning, OERs has been strongly supported by the EU, UNESCO, MIT, OECD, UN, as well as by the Open Society Institute, i.e. the Foundations Open Society.

An important date for OER and open education is September 2007, i.e. the Cape Town Declaration, which, with the support of the Open Society Institute, adopts the Declaration on Open Education, signed by hundreds of educators around the world. The June 2012 Paris Declaration on OER, which is supported by UNESCO, is a historic moment for OER when governments around the world license publicly funded educational materials with open licenses and make them available to the public.

Due to the lack of official resources approved by the Ministry of Education and Science and the BDE, OERs are especially important for communities where teaching is conducted in a language other than Macedonian. In the past, open educational resources have become one of the main sources through which students gain knowledge. To fully utilize the potential offered by the open educational resources in our country, certain changes in the regulations are needed, which will allow their uninterrupted use in the school environment. It is important to note that not every online resource is an **open** educational resource.

For more details about OER, you can visit the project website (www.oer.mk) and read more in Attachment 1 of this document, in the section "**Textbooks, other e-content and copyright**".

Recognizing the most dedicated stakeholders, by promoting positive examples of effective online teaching

All participants in the research, including informal communication outside the research activities, agree that in our country there are highly motivated, technically and pedagogically prepared teachers. They are constantly learning and upgrading, are available to parents and children, work much longer and outside of official working hours and take care of the education their students receive. They are not afraid of challenges and are often looking for new ways to share knowledge and motivate students to master the subject better. In the past period, every teacher has faced a challenge called online teaching, often with limited resources and knowledge, but not all have come out richer from that experience.

Therefore, one of the recommendations of this research is to give recognition to the most dedicated, creative and persistent teachers in elementary education in RNM, because they are the embodiment of the education system before our children. Their sacrifice, motivation and determination to meet the technological challenges during this crisis must not go unnoticed by the competent institutions. By promoting positive examples and presenting success stories to the public, everyone involved, and especially fellow teachers, will be able to hope for a positive result from online teaching in the years to come.

Finally, although the purpose of this paper is not to analyze the proposed solutions for online teaching in terms of cybersecurity and protection of student privacy, we must point out several potential risks that the process itself carries.

Namely, the lack of unified access to online teaching in the period March - June 2020 has led to almost every school to implement it in its way, by collecting, storing and transferring personal data of students to a variety of software and web services. At the beginning of the new school year, especially if a single platform is used for all schools, we urge the authorities to pay attention to data security and to respect the principles of privacy of children.

More information about this is available in Attachment 1 of this document, in the section **"Protection of the safety and privacy of children"**.

Additionally, in Attachment 1 we present the full official letter of the Metamorphosis Foundation to the Ministry of Education and Science, published on 10 July 2020, while this research was being conducted. We believe that the addressed remarks and recommendations remain relevant even now, after the publication of the results of our research, and as such, we incorporate them as recommendations in this report as well.

Attachment 1: Metamorphosis's contribution to the public consultation conducted by MES on the draft version of the distance learning concept

The Metamorphosis Foundation for Internet and Society, as a response to a public invitation from the Ministry of Education and Science (6 July 2020) for public consultation on a draft-version of the distance learning concept, prepared the following opinion, based on its experience and specialist expertise developed through projects and initiatives: National Strategy for Development of Information Society (2004-2005); Safe Online (from 2007 to date); Free Culture - Creative Commons; Open access to academic content and the European Network COMMUNION (from 2007 until today); the research The use of computers in education (2010); Open educational resources (from 2012 until today); Critical thinking for mediawise citizens - Critink (from 2018 until today); Increasing civic engagement in the digital agenda - ICEDA (started in 2020) and many other previous and current activities.

Procedural remarks

First of all, Metamorphosis procedurally indicates that the **deadline for submission of proposals and suggestions until 10 July (only 4 days) is too short** to make a solid analysis of the published draft of the Concept and to obtain opinions from all stakeholders. Thus we **propose that the deadline be continued and that state institutions offer more forms of consultation**, including the use of digital communication tools, such as online meetings and taking advantage of the SENR system, such as the electronic forum, given that due to the situation with Covid-19 there are no conditions for physical meetings and round tables.

The development of state policies in this field is necessary because even without the Covid-19 crisis, there are children who (sometimes temporarily and sometimes long-term) for various reasons (from health to economics) cannot attend school, and because there are children with special needs who live in rural areas and belong to other marginalized groups.

The given time frames are of great importance and should be reconsidered. According to the draft Action Plan, the Concept is not planned to be implemented this school year, but the next one, but it is necessary to urgently pay attention to the current needs, given that the new school year starts in less than two months. Therefore, in addition to the full reform, which is a long-term process, it is important to initiate an urgent public debate on draft solutions in the short term.

Solving new and accumulated problems requires the development of **at least two different approaches/plans**: a crisis management plan and a long-term plan. Distance learning is certainly a very useful form for children who need such support in the long run (even after the end of the pandemic), so the development of distance learning policy should be approached with two different plans:

- (1) short-term crisis management and rapid mobilization plan, and
- (2) a multi-annual plan aimed at creating conditions for successful implementation of the overall policy.

The need for decision-making based on empirical research

The draft concept of the Ministry of Education and Science states that so far there are no, or at least not published, **studies for identification of the situation**. We believe that this research belongs to such a categorization, i.e. it contributes to identifying the situation with online learning.

In addition to the challenges highlighted by the Ministry of Education and Science, at least one **key element is missing - resources, i.e. online learning materials**. This problem is especially characteristic for rural areas, for areas where in addition to Macedonian, teaching is conducted in another language, as well as for subjects for which there is no textbook at all. Because of all this, it is left to the teacher to decide for themselves whether, what, how much and how they will transfer knowledge to the students.

Needs assessment and situation analysis must be comprehensive and fact-based, as education and all public policies that have a direct impact on children are very sensitive. Experience shows that slower but well-thought-out changes work better than fast and unsustainable policies. **An accurate assessment of the problems and needs should be made** (especially for successful implementation of the long-term plan), by pointing out in which environments/communities there is a greater need for support and the actions will be adapted to the needs.

The necessity of applying world experiences for open educational resources

The Concept must define digital learning, online teaching and distance learning as three similar, yet mutually different aspects of the educational process, given that each has its own specifics and that any terminological misunderstanding in the future can serve as the basis for slowing down the practical application. The clear and unambiguous message from the institutions will

enable the teaching process in the following school years not to be based on spontaneous solutions of individual teachers, i.e. on their (un)creativity and digital skills. This will prevent discrepancies in the knowledge of the generations forced to receive their education at home.

The document mentions "e-contents", "other resources, such as "didactic support", "updated teaching resources", "e-textbooks" and the like on several occasions. Without wasting time on each term separately and how they should not be used as synonyms (for example, an e-textbook is not a classic textbook attached to the Internet in PDF format), we will address one major drawback: **open educational resources**. The benefits of this type of learning resource are enormous, especially in a situation like the current one, and they (most often) allow the sharing and modification of a single, quality resource for each teacher, regardless of the place of residence, the language of instruction, socio- economic status, etc.

Textbooks, other e-contents and copyright

To promote open educational resources (OER), it is extremely important, at the highest legal level, to clarify the copyright aspects of the contents of the education system, following the best practices that have been applied for years in the most scientifically advanced countries of the European Union, in line with the 2007 Cape Town Open Education Declaration, the UNESCO 2012 Paris OER Declaration, the 2017 Ljubljana OER Action Plan, the 2018 UNESCO Recommendations on OER, and the benefits of the practice of enabling free access to educational e-content through the system "Creative Commons".

As a future member of the European Union, RNM must be included in the European Agenda for stimulating high quality and innovative ways of learning and teaching, defined by the concept Opening up Education: Innovative teaching and learning for all through new Technologies and Open Educational Resources, adopted by the European Commission back in 2013.

It is especially important to enable the free use of resources (such as textbooks) for which the state has purchased the copyrights and for which citizens do not need to pay a second time to access their digital forms.

The concept touches on this issue by mentioning **e-textbooks** (in PDF format and e-book format) that need to be approved by the Ministry of Education and Science. This leads to the conclusion (although not explicitly stated) that the copyrights of all resources published on the national platform would belong to the Ministry.

In the section "organization of distance learning," it is stated that the teacher "can prepare/adapt content for the subject that they teach". Also, the question must be clarified whether these created or modified educational resources will be considered **copyright works** of the teacher,

whether they will be subject to verification of conformity by the institutions and whether they will be legally free for reuse by other persons.

On the other hand, such verification and approval of the materials that would be used in the national platform by the MES raises the need to mobilize additional material and human resources and indicates the need to unequivocally ensure the availability of content at the very beginning of its use. Having in mind the previous experiences from the creation, printing and distribution of certain textbooks to end-users, especially when it comes to textbooks in the languages of the smaller communities, the question of providing the necessary technical and human resources to meet the goals of the existence of a national platform arises.

The section "pedagogy" also mentions "learning through computer games", referring to the English term gamification. In this case, too, the precise definition of concepts and terms is important, because gamification is not learning by playing computer games. This topic is too extensive to be properly addressed, but it is important to note that although there are "a large number of digital resources with game elements", their incorporation, i.e. their use by students in our country, remains a huge challenge. Namely, most of these resources are in English, with contents that are sociologically, pedagogically, but also culturally inappropriate for our education. In other words, it is not possible to use them properly, i.e. we need to create gamified activities and classes following the needs of our students and teachers.

Protecting the safety and privacy of children

Protecting the safety of children is crucial to the success of the whole reform, which is based on the promotion of a range of basic human rights.

The increasing use of Internet-based technologies also carries increased risks in the areas of cybersecurity, cyber bullying, and Internet addiction. The confrontation with these risks should start with their involvement in the debate, and a result of that confrontation will be the future strategic documents that will be a framework for organizing distance learning.

From the aspect of **privacy protection**, the published draft does not cover the specifics of the manner of inclusion of each student in the process of distance learning, in terms of who will be their identifier, e-mail address and the like. This is a particularly important point, especially since it is an interaction in which the primary target group is minors. Experience to date indicates the absence of a unified process: some schools have insisted on opening email addresses on behalf of children, and some have accepted registrations with e-mail addresses of parents. This process should be further unified because it is inevitable to create a completely new electronic collection of personal data, and thus the rules for the protection of privacy should be adequately reflected.

The draft Concept lists several distance learning platforms, some of which are owned by the BDE, and some by the relevant ministries, while in practice in the past 4 months many schools have used other platforms (Zoom, Google Classroom, Moodle, etc.). The recording of classes, as well as all the data required for the use of different platforms, in accordance with the European regulation GDPR to which our legal system is adapted, is often treated as a transfer of personal data to other countries. For this, the laws require informing the parents, and even obtaining their consent. For schools, this may be an additional administrative burden, for which additional resources should be provided in order to ensure uniform practice in the use of data in all schools.

The document itself indicates the need to amend the laws in the field of education, but in the process of changes should be taken into account how the principles of personal **data protection** of all involved individuals will be respected. It is necessary to define exactly who will be the controller, who will be the processor, and who will be the user of all that data, to specify the storage deadlines, technical protection measures, etc. This means that Privacy Impact Assessment procedures need to be implemented, and given the short time until the beginning of the new school year, these issues need to be addressed urgently, at a global (state) level, as a precondition for their implementation in individual institutions (schools).

The importance of the roles of parents, educators, psychologists and other stakeholders

The draft concept includes a list of human resources that envisages the **involvement of the parent/guardian**. For many families, this is an additional challenge, because not all parents have the same time, knowledge and skills to be constantly at home and to be fully involved in their child's education daily. This is especially true for parents/guardians with more than 1-2 children, single parents/guardians with more children included in the education system, parents/guardians who do not have the option of working from home, etc. Therefore, the role of parents versus professionals must be elaborated in detail (through knowledge checklists and tools), but in the current context, they cannot be expected to leave their jobs and devote themselves solely to learning at home with their children.

In this context, it is important to provide **additional support for children from marginalized communities**, because parents are a prerequisite for the successful implementation of this policy. In addition to supporting the development of parents' digital skills and familiarity with the tools, it is necessary to plan specific measures that will provide equal access to children whose **parents do not have the will or time** to be directly involved in their children's education (e.g. children from marginalized communities). Failure to consciously pay attention to this aspect will lead to the effects of the crisis affecting more marginalized communities that are also affected by an economic point of view. This must be addressed by the **distance learning plan in times of crisis**.

In the concept of distance learning, the roles of the school **pedagogue and psychologist** should be precisely defined, starting from the possibilities for online counseling (e-counseling), to the complete conceptual envisaging of the educational process, not only from the aspect of its teaching but also from the aspect of its educational and developmental component, to which attention should also be paid. The pedagogical service is in charge of monitoring the progress of students, as well as advising parents, so in the current situation, it is important to consider the option of group consultation sessions with parents about the challenges they face in implementing all forms of distance learning.

The concept must include **extracurricular activities** that enable students to acquire new skills and develop their creativity. For this aspect, it is important to consult and involve **youth workers** (at least for students over 15 years) and **youth centers**, in support of this process and as part of the human resources that are officially recognized by the Law on Youth Participation and Youth Policies from 2020.

The necessity of promoting digital citizenship and media literacy

Metamorphosis's experience from all ICT-related projects suggests that it is extremely important that all involved in educational reforms - from decision-makers, school management to teachers that are supposed to implement them in practice - strengthen their capacity in the field of digital citizenship and media literacy.

Digital citizenship includes many elements, the most important of which are increasing the knowledge of citizens on how to use new technologies (digital literacy), as well as awareness of the social implications of using new technologies, especially in order to promote their civil rights and opportunities to be involved in decision-making processes at all levels.

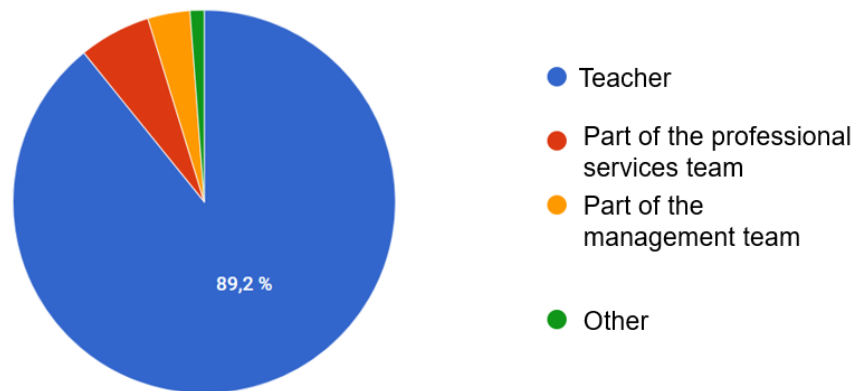
Media literacy, more broadly speaking, often overlaps with parts of the digital literacy field and is one of the priority areas Metamorphosis is working on, as part of the Working Group on Introducing Media Literacy into the Formal Education System, the National Coalition for Media Literacy and the Media Literacy Network.

Based on the survey Critical Thinking and Media Literacy of Youth (2019), Metamorphosis and Eurothink indicated that the problem of media literacy should become a state priority and that raising the level of media literacy should be treated as a strategic goal. In the new conditions, the need for a comprehensive reform of educational programs has become even more important, for these values to be integrated into the development of all forms of education, with distance education and e-education being pointed out as particularly critical.

The given remarks are only part of the open questions related to the challenges faced by institutions, organizations, experts and all other stakeholders that the Distance Learning Concept should help. It is therefore extremely important that the consultation process continues in an expanded form, which will increase the inclusiveness and effectiveness of the ongoing comprehensive reforms of the education system.

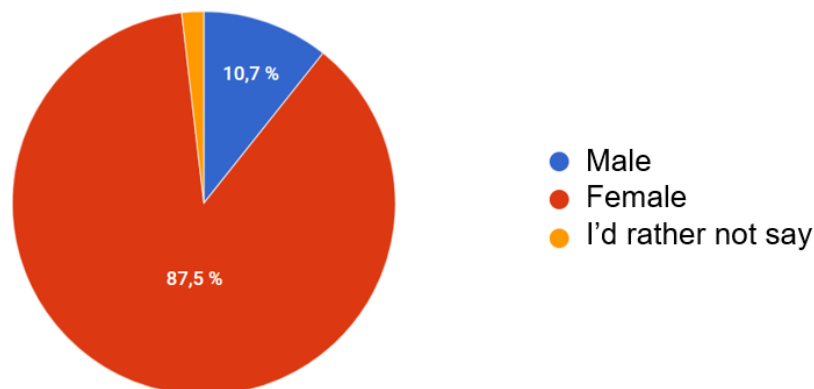
Attachment 2: Additional visualizations of the research results

You workplace in the school is?
757 responses



Graph 1: The school as a workplace

You gender?
757 responses



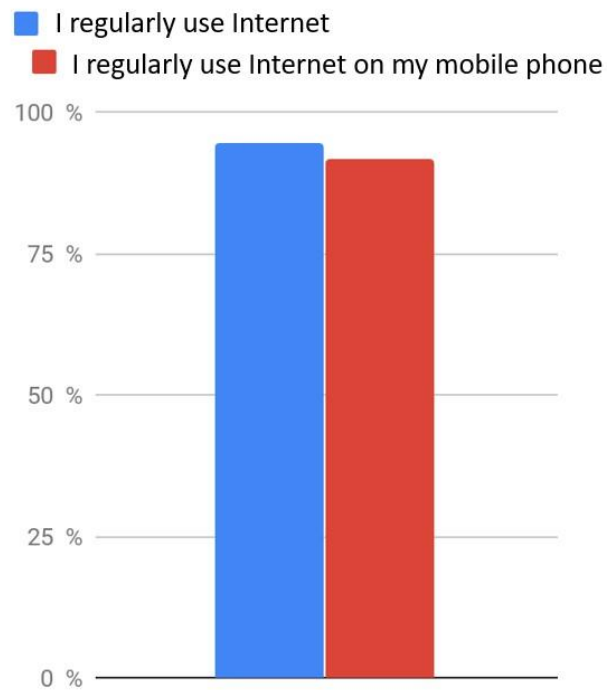
Graph 2: Gender distribution of research participants

You teach at your school:

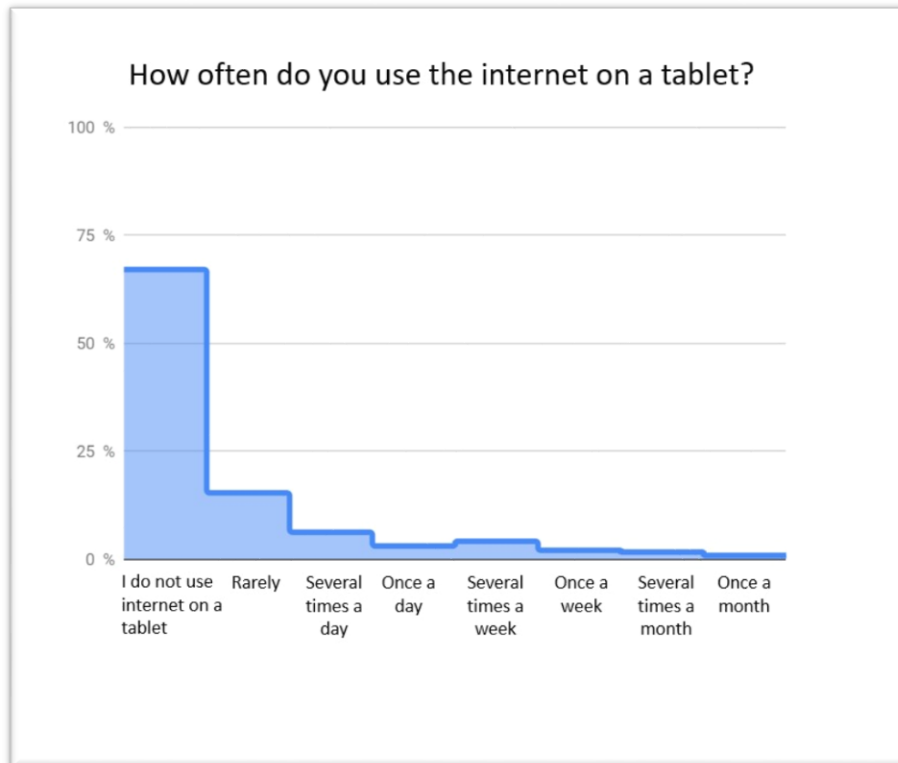
757 responses



Graph 3: Language of instruction



Graph 4: Internet use



Graph 5: Internet use on a tablet

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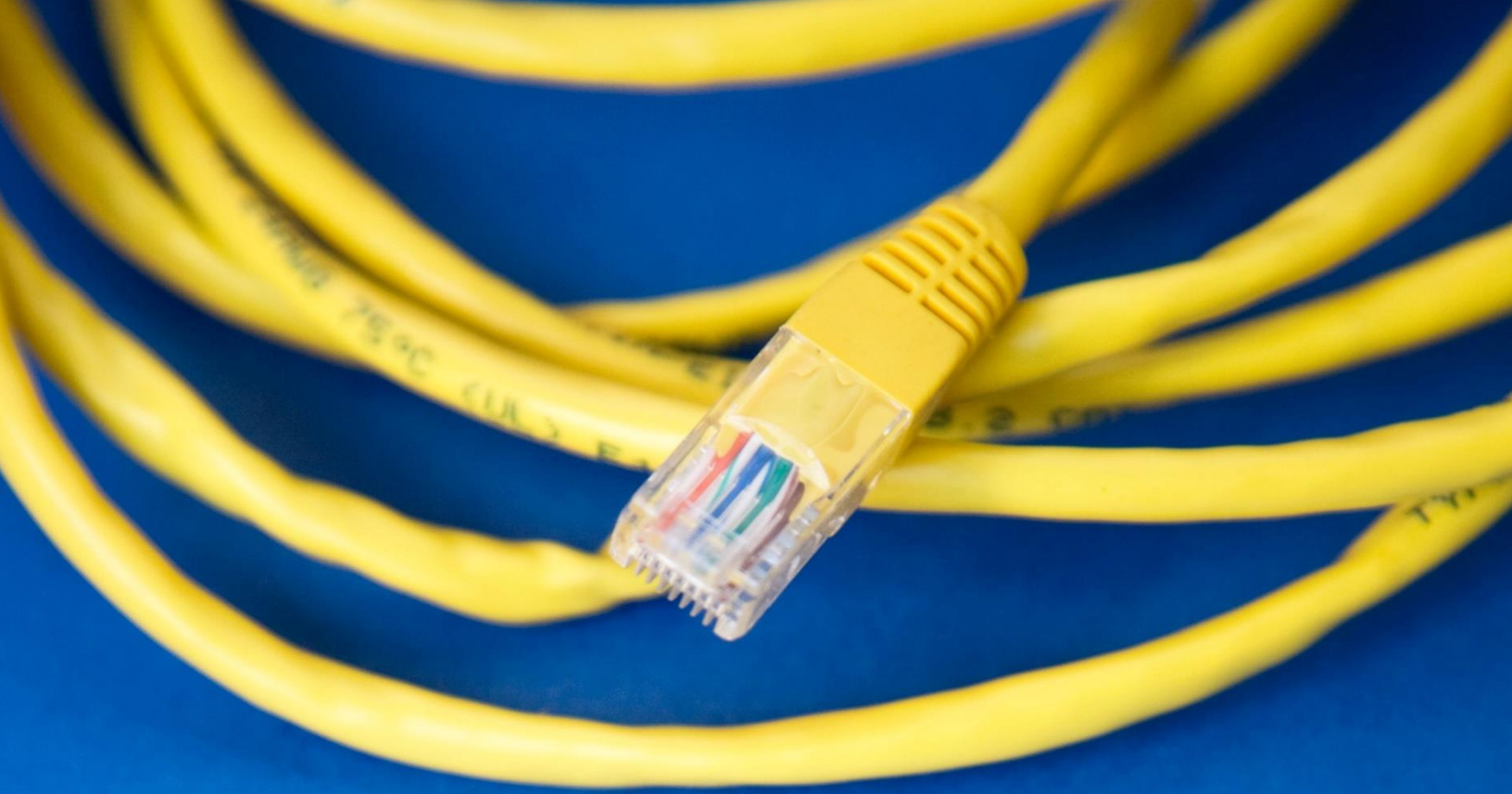
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The conditions and challenges for conducting online teaching in elementary schools

Metamorphosis Foundation
September, 2020